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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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James Neal Richter

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EXAMINER

CHEN, TE Y

ART UNIT

PAPER NUMBER

2161

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/751,934

Applicant(s)

RICHTER ET AL.

Examiner

Susan Y. Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 June 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-12,14-22,27 and 28 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,2,4-12,14-22,27 and 28 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

***Response to Amendment***

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 20, 2006 has been entered.

Claims 1-2, 4-12 and 14-22, 27-28 are pending for examination, claims 1, 8, 14, 16, 18 and 28 have been amended.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

As set forth in MPEP 2106 (II) (A):

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

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Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See *Arrhythmia*, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

Claims 1-2, 4-12, 14-16, 17-22 and 27- 28 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

As to claims 1, 14, 17 and 28, these claims merely apply some descriptive operational steps to produce an output of abstract ensemble (or clustering) algorithms, however, because the output is not stored or displayed to yield some real world value, therefore, the claimed invention as a whole does not produce a "useful, concrete and tangible" result.

As to claims 2, 4-12, 15-16, 17-22 and 27, these claims have the same defects as their base claims respectively, hence are rejected for the same reason.

To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-2, 4-12, 14-16, 17-22 and 27- 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claims 1, 14 and 28, the claimed limitation “without forming a probabilistic predictive model system” is new, because applicant fails to defined what is the meets and bounds of the claimed “a probabilistic predictive model system” and how to make the claimed “an information retrieval without forming a probabilistic predictive model system”, for the purpose to expedite the prosecution of instant application, the Office regards any information retrieval system in the database art that performs data classification modeling reads the claimed subject matter.

As to claims 2, 4-12, 15-16, 17-22 and 27, these claims have the same defects as their base claims respectively, hence are rejected for the same reason.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, 4-12, 14-22, 27 and 28, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1, 14, 17, and 28, applicant fails to define metes and bounds of the claimed "the output of said ensemble of algorithms" or "the outcome of said ensemble of algorithms", as such, it renders the claimed subject matters to be indefinite.

Furthermore, in claim 28, the use of phrase "may be" produces indefinite result that renders the corresponding claimed subject matters "a Baysean or non-Baysean system" to be unclear. For the purpose to expedite the prosecution of instant application, the Office regards the claimed system as a "Baysean" system.

As to claims 2, 4-12, 14-22 and 27, these claims have the same defects as their base claim 1, hence are rejected for the same reason.

Because the ambiguous nature of instant invention, the following art rejection is to the best that the examiner is able to ascertain.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-12 and 14-15, 17, 19-22 and 27-28, are rejected under 35 U.S.C. 103(a) as being unpatentable over Horvitz et al. (U.S. Patent No. 6,182,133) in view of Wical (U.S. Patent No. 5,940,821).

As to claim 1 and 28, Horvitz et al. (hereinafter referred as Horvitz) discloses a method as claimed by applicant, comprising:

a) detecting an access of first information item [e.g., the Web Server Application Programs 80, Fig. 1; Fig. 16 and associated text; col. 47, lines 9-18];

b) detecting an access of a second informational item [e.g., the Browser Application program 30, Fig. 1; Fig(s) 6 and associated text];

c) establishing that a relationship link exists between said first informational item and second informational item [e.g., the use of link to establish relationship between Web pages at col. 1, lines 47-59].

d) determine an integer-weight based on the historical frequency of the relationship link [e.g., the user modeling processing that determines the numerical

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ranking of URLs based on historical logged data of page transitions across all individuals site visiting activities or Bayesian model encoding processing at col. 4, lines 30-47]

d) applying an ensemble of algorithms to said first informational item and said second informational item [e.g., User modeling comprising the Bayesian model or a Hidden Marko model that collectively containing a set of predefined rules or functions to generate a weight (or likelihood estimates) applied over a set of URLs and /or corresponding web page components at col. 28, lines 8-14].

e) assigning the weight (or likelihood estimates) to the output of said ensemble of algorithms [e.g., col. 43, lines 9-37].

Horvitz does not specifically disclose that the weight (or likelihood estimates) is related to an integer-value.

However Wical (U.S. Patent No. 5,940,821) discloses an information item retrieval system with the link relationship weight represented as integer [e.g., Abstract, col. 12, lines 15 – 51; Fig(s). 4, 9a and associated texts].

Horvitz and Wical are both endeavor to optimize an informational document classification mapping of an information query and retrieval system via managing World Wide Web page browsing and correlation activities over open network, therefore, with the teachings of Horvitz and Wical in front of him/her it would have been obvious for an ordinary skilled person in the art at the time the invention was made to be motivated to apply the well known integer-value weight as disclosed by Wical into Horvitz's information retrieving and classification system, because by doing so, the combined



system will be upgraded to have integer-value weight associate with the relationship link between informational items, such that it would facilitate the outcome calculation of ensemble algorithms during informational items classification mapping of the combined system.

As to claim 2, except all the features recited in claim 1 above, the combined system of Horvits and Wical further discloses that the step of detecting the second informational item includes the detecting of a plurality of informational items [e.g., Horvits: col. 4, lines 20-30].

As to claims 4 and 27, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses that the step of applying an algorithm for data aging wherein the usage of the relationship link is monitored and used as feed back for the weight associated with the relationship link [e.g., Horvits: col. 5, lines 38-52]; wherein, the data aging runs as a function of traffic load to age the relationship links according to relevance of the relationship links [e.g., Horvits: Fig.(s) 17A-C and associated texts].

As to claims 5-6, except all the features recited in claim 4 above, the combined system of Horvits and Wical further discloses that the step of applying a repeatedly pruning algorithm wherein external information regarding the usefulness of at least one relationship link is utilized to modify the existence of a recorded relationship link and

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determine if a recorded relationship link should be removed [e.g., Horvits: the refinement processing at col. 4, lines 50-62; col. 5, lines 11-18; lines 55-60].

As to claim 7, except all the features recited in claim 5 above, the combined system of Horvits and Wical further discloses that the step of applying said pruning algorithm makes use of a user determined feedback of the usefulness of a relationship [e.g., Horvits: col. 28, lines 3-22].

As to claim 8, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses that said ensemble includes a plurality of algorithms and wherein said relationship link integer-value weight is adjusted in direction proportion to the number of algorithms within said ensemble of algorithms that determine the existence of said relationship link [e.g., Wical: Fig. 5 and associated texts].

As to claim 9, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses that said relationship link is positioned in a list in direct proportion to the degree of consensus among said ensemble of algorithms [e.g., Horvits: col. 10, lines 47-61].

As to claim 10, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses that said ensemble includes a plurality of

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algorithms and each of said algorithms runs independently of all other algorithms [e.g., Horvits: col. 11, lines 6-12].

As to claim 11, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses the step of merging the outputs of said ensemble of algorithms [e.g., Horvits: col. 12, lines 1-20, Fig. 2 and associated texts].

As to claim 12, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses the step of recording said relationship link in a non-Bayesian-type network [e.g., Wical: the unit 115, Fig. 2 and associated texts; Fig. 4 and associated texts].

As to claims 14-22, these claims recited the same features as claims 1-12 and 27 in form of computer apparatus or a readable storage medium product, hence are rejected for the same reason.

### ***Response to Arguments***

Applicant's arguments filed on June 20, 2006 have been fully considered but they are not persuasive.

The examiner disagrees with applicant's arguments and piecemeal interpretation that "Horvitz is clearly a predictive system based on counting clicks whereas the Wical

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teaching are more information centric. It will be appreciated by one of skill in the art that the transition probability of Horvitz reference is clearly not compatible with the assignment of distance weight teaching of the Wical reference."

In response to these arguments, the examiner points out that Horvitz and Wical are both endeavor to optimize an informational document classification mapping of an information query and retrieval system via managing World Wide Web page browsing and correlation activities that deemed to involving the page transition probability associated to a user's navigation over open network, thus, in contrary to applicant's arguments, an ordinary skilled person in the art will definitely desired to apply the well known integer-value weighting technique as disclosed by Wical into Horvitz's system to facilitate the outcome calculation of ensemble algorithms, such that to provide a successful classification mapping of the combined system.

The examiner further disagrees with applicant's argument that "A URL is not an informational item as recited in the claims." In response to this argument, the examiner first points out that applicant does not define any metes and bound of the claimed information item, as such, any objects in the information processing system reads the claimed information item.

In addition, the examiner disagrees with applicant's arguments that Horvitz reference fails to disclose, teach or suggest the "relationship link" as recited in claims 1,

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14 and 28. In reply to these arguments, the examiner directs applicants attention to the citation disclosed by Horvitz at col. 1, lines 47-59 as following:

"Once the content associated with the page is fully or sufficiently rendered, the user can then point his(her) mouse to a suitable hypertext link, button or other suitable user input field (whichever here implements a "hotlink") displayed on that page and then, through, e.g., a mouse "click", effectively download and display another desired page in succession until the user has finished his(her) visit to that site. A hotlink specifies an address of an associated page, regardless of the web site at which that page is situated. Consequently, by simply and successively pointing and "clicking" his(her) mouse at an appropriate hotlink for each one of a number of desired web pages, the user can readily retrieve each desired page in succession from its corresponding web site and effortlessly jump from site to site, regardless of where those sites are physically located."

Here, Horvitz clearly cited that a hypertext link or hotlink can be clicked by a user to retrieve a target page associated to the current content page, wherein, the target page and content page are deemed to be information items and the clicking of "hypertext link" or "hotlink" are definitely establishing an association or relationship between these information items (or pages).

As to the rest of arguments applicant either argued based on newly amended features that are moot on the new ground rejections or merely rehashes issues already addressed on record, thus, based on the discussion above, the rejections are maintained.

***Conclusion***

To expedite the process of re-examination, the examiner requests that all future correspondences in regard to overcoming prior art rejections or other issues (e.g. 35 U.S.C. 112) set forth by the Examiner prior to the office action, that applicant should provide and link to the most specific page and line numbers of the disclosure where best support is found (see 35 U.S.C. 132).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Kasravi et al. (U.S. Patent No. 5,933,818) which discloses a knowledge discovery system to automatically discovering knowledge from database via a plurality of clustering functions over Kohonen neural network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y. Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Susan Y Chen  
Examiner  
Art Unit 2161

September 23, 2006

A handwritten signature in cursive script, appearing to read "Susan Chen", is written over the printed name and title of the examiner.